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ABSTRACT

Concentrating on hearing reading rather than parents reading to children, this literature review examines research into parents' participation in their children's literacy development with the aim of providing information to assist school practice. The review focuses on attention to British studies involving systematic analysis of carefully gathered evidence, published in refereed journals. The review states two general points: there is good evidence that it is a widespread practice for parents to coach their children in reading by listening to them read during their elementary school education; and that parents may differ considerably in their responsiveness to invitations from school to take part in reading programs. The bulk of the review offers discussion of studies of behavior training, the "Pause, Prompt, Praise" (PPP) approach, Paired Reading, and "Parent Listening" schemes. The numerous conclusions of the review include: (1) behavioral, PPP, and Paired Reading research demonstrates that special purpose, short-term programs of 10 weeks or less with a clear specification of objectives and procedures and careful attention to parent instruction and training can bring about considerable growth in below average readers' reading competence; (2) studies focusing on poor readers are more likely to be successful; and (3) Paired Reading has some obvious advantages over the behavioral and PPP approaches. (Two figures and two tables of data are included; 107 references are attached.) (RS)

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PARENTS HEARING READING: LESSONS FOR SCHOOL PRACTICE FROM THE BRITISH AND AUSTRALASIAN RESEARCH

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This paper examines research into parents' participation in their children's literacy development with the aim of providing information to assist school practice. It concentrates on hearing reading rather than parents reading to children. Attention will be paid, in the main, to studies involving the systematic analysis of carefully gathered evidence, published in refereed journals.[2] Because this is written for a U.S. readership most attention will be paid to the British studies, as being more likely to be unfamiliar to readers. An earlier review (Toomey 1986, 1987) compared U.K. and U.S.A. studies. Since then there has been a considerable growth in the U.K. literature.

Two major contrasting approaches are to be found in the literature on home-school relations. On the one hand a great many studies emphasise the influence of parents upon children's acquisition of school knowledge in the process of general up-bringing or socialisation within the family (Hess and Holloway, 1983; Toomey, 1989a; Scott-Jones, 1984; Henderson, 1981). By contrast are those writers who emphasise the distinctiveness of the home and the school as institutions (e.g. Litwak and Meyer, 1973; Katz, 1983; Dreeben, 1968) and the importance of the professional authority and specialised skill of the teacher in bringing about children's learning in school (Litwak and Meyer, 1973; Parsons, 1953). This contrast is to be found amongst those who make recommendations to schools on how to involve parents in their children's literacy development. Some emphasise the need for teachers or other professionals to train parents in the requisite skills, as in the behavioural (Ryeback and Staats, 1970), 'Paired Reading" (Topping, 1985), and 'Prompt, Pause', Praise (McNaughton et al., 1981) approaches. Others de-emphasise the need for intensive parent training as in 'parent listening' schemes (e.g. Tizard et al., 1982; Hannon

and Jackson, 1981)

Before describing the particular studies, there are two general points which need to be made.

Firstly, Hewison and Tizard (1980) have provided good evidence that it is a widespread practice for parents to coach their children in reading by listening to them read during the years of Primary (elementary) schooling. Their evidence also suggests that this may improve children's reading competence. Both Toomey (1989b) and Share et al. (1987) provide similar evidence from Australia, though the evidence of Share et al. (1987) suggests that this support may have negative consequences, or, at least, is associated with lower levels of reading competence. So interventions by teachers or others, requesting parents to assist their children's reading development will not take place in a tabula rasa situation. There is some evidence from studies of Paired Reading, that parents may vary considerably in the extent to which they adhere to the approved method (Elliot, 1989; Miller et al., 1986; Wareing, 1985;). Even with the most carefully executed study we cannot hope to emulate laboratory conditions with natural setting quasi-experiments.

Secondly, parents may differ considerably in their responsiveness to invitations from the school to take part in parents and reading programs. Toomey (1989) provides evidence that programs which throw open to parents a general invitation to take part, can result in increasing the already apparent gap between the reading competence of the children of 'enthusiast' parents who readily involve themselves in school and their children's learning at home, and the achievements of children of the somewhat larger group of parents who

may lack confidence and/or competence in these matters. Dolan (1978) provides evidence that differential parental response to an educational intervention involving parents can affect the learning of the children involved.

The rest of the paper deals with behaviour training, the Pause, Prompt, Praise approach, Paired Reading and 'Parent Listening' schemes, in that order, followed by concluding remarks.

Behaviour Training

> "Whether the parent intends to or not, he manipulates many conditions of learning that will determine to a large extent the behaviours the child will acquire. As long as the child's behavioural development consists of innumerable training experiences, the parent has many of the controlling variables in his hands and cannot relinquish them regardless of his philosophy of child development.... Faced with a training task of such imposing responsibilities, it would seem that the parent would need an understanding of the principles of behaviour by which children learn... This suggests that the parent could be an active participant in arranging circumstances to produce most effectively an abundant, rich, adjustive, behavioural repertoire using a minimum of aversive stimulation and a maximum of positive reinforcement..." (Staats, 1963, pp. 412-413)

In this approach parents are trained to reinforce with approval or other reinforcers behaviour which the training regime seeks to encourage. This principle has been

employed to affect a wide range of school related behaviours in children of a problematic kind e.g. stuttering, destructive behaviour, aggressive behaviour, hyperactivity and school phobia (for a review see Barth, 1979). The principle is to affect directly the behaviours in question by rewarding their presence or absence, as appropriate. Applied to the reading process it involves rewarding successful reading behaviour. The technique involves relatively lengthy training procedures, both in the time spent by the trainer in the initial training phase and in the time spent observing the parent working with the child and giving guidance and appropriate reinforcement. The 'SMART' technique developed by Staats and Butterfield (1965) for use with para-professionals as tutors has been applied to use with parents. In this system, the parent rewards the child for successful behaviour by giving tokens, of differing value, which can be exchanged for money. There are three phases: reading aloud single words, reading aloud a paragraph containing some of the words and silent reading with comprehension questions.

The Ryback and Staats (1970) study involved four children (aged 8½ to 13), all having reading problems. The parents received four hours training, including a session of supervised practice and during the first two weeks of the program direct supervision of the parents' practice occurred periodically. This supervision involved detailed checklists of the expected behaviour of the parent e.g. representing missing words, delivering tokens, presenting paragraphs until the child had them entirely correct, giving positive social reinforcement and avoiding negative reinforcement. These checklists and errors were discussed with the parent at the end of the half-hour session. The visits took up five hours per parent. Also half-hour meetings of all parents took place at the end of the first, third and eighth weeks of the program. The program lasted between five and seven

months. Pre-post gains on the Spache Diagnotic Reading Test were measured. The three subtests for word recognition, reading aloud and silent reading with comprehension questions all showed substantial gains for all subjects in all subtests but one (i.e. word recognition for one subject) an increase of at least one grade level was found on the test for all subjects. These gains all reached statistical significance (varying from $p < .05$ to $p < .005$). In addition each of the subjects showed very substantial gains in progressing through the SMART materials, and in accelerating their reading rate (in spite of the increasing difficulty of the reading material).

Koven and LeBow (1973) used the SMART system with three males aged 7-8 over a nine week period involving daily half-hour sessions in the home. Parents attended three training meetings as well as three demonstration sessions by the experimenter in the home, plus two further sessions involving part demonstration by the experimenter and part implementation by the mother. The experimenter continued observations until four to five days of successful implementation by the mother had been carried out. After this the experimenter observed one session per week but also telephoned the mother on the other days, gradually reducing this contact to a level of one call every seven to ten days. The main evaluation approach was to compare the per cent correct responses of the child during the baseline period with those in the post training period. This showed substantial improvements, for example the percentage of correct answers to the 150 comprehension questions, at first trial, varied from 97 to 89 per cent. It was also noted that the children enjoyed the reading experiences.

The authors point out that the behaviour training regimen was longer than in the Ryeback

and Staats (1970) study, commenting that this was necessary in order to overcome learning difficulties experienced by one parent, who found it hard to praise her son.

Umansky and Umansky (1976) conducted an Australian study with ten English, immigrant, poor readers aged 7 to 14, with reading levels one and a half to four and a half years behind "normal". They were divided into experimental and control groups, the SMART procedure being applied by parents to the former with the exception that instead of the silent reading phase, the children were asked to answer the comprehension questions on their own. Parents were trained for five hours over three sessions. The program lasted two months and the children made gains on the St. Lucia Reading Test of an average of twelve months, the figure for the controls being 2.28, ($p = .005$). Interviews with teachers, parents and children revealed strong approval of the program. In three cases the teachers had made unsolicited contact with the parents to comment on the improvement in attitudes of the students. For the students it was evident that the intrinsic rewards of success in reading far outweighed the monetary rewards involved.

Fry (1977) examined the gains in reading competence (Burt Word Recognition Test) of 30 students over three periods of two months each. The first was a baseline period (no treatment) the second the experimental period, the third the post- experimental period. Subjects were all from one school, all with a reading age of seven or less and all at least 18 months retarded in reading age.

Parents attended three group training sessions and received two home visits. They were taught to train their children in recognition of Dolch words, by assigning points to various

kinds of success; these points were then traded by the child for home privileges using values negotiated by parent and child. Teaching occurred on a daily basis.

The results showed a significant gain in word recognition of 8.33 months on average during the experimental stage, but the rate of gain returned to a level of 1.97 months in the post experimental phase of two months.

Many parents spoke of the mutual enjoyment of the training periods. There was also some mention of the friction previously experienced in such teaching situations.

Fry (1977) points out that the method did not teach more complex reading skills, and that the test used merely tested word recognition.

These three studies were all conducted with families in socially disadvantaged circumstances, as a method of equalising educational opportunities though the parents in the Ryeback and Staats (1970) study had completed high school, whereas those in the Umansky and Umansky (1976) study had not.

With the exception of the Fry study, all these studies dealt with small numbers of families but had relatively extended periods of training and supervision. Compared with the Paired Reading and Parent Listening approaches this makes the method relatively expensive. It is of some interest that the Koven and Lebow (1973) study found extended time necessary to meet the needs of particular parents. Clearly, parents are likely to differ considerably in their needs for support, whereas the normal approach in parent

involvement programs appears to be to provide a standard package.

With the exception of the Umansky and Umansky (1976) study, which employed a control group, all these behavioural studies used a base-line-experimental design which is subject to a number of objections (see below).

Pause Prompt Praise (PPP)

This method is a development of the behavioural approach, modified according to psycho-linguistic principles. It originated in New Zealand with the Auckland study (McNaughton et al., 1981). Parents are trained to administer praise as a reinforcement for correct reading behaviour, in line with behavioural theory, they are also trained to pause when the child self-corrects after making an error, thus encouraging independent behaviour. They are also trained to give prompts, especially meaning-oriented prompts to assist the child self-correct, the authority cited being Clay (1979). Figure One illustrates the method used in the Auckland study.

The procedures are very similar to those in the behavioural approach, with small samples, careful parent training and extensive monitoring and reinforcement of parent tutoring practices, with baseline-experimental phase comparisons for evaluation purposes.

The Auckland study involved eight families of eight to twelve year old boys at least two years retarded in reading test performance. Baseline assessment of parents' pre-training practices took one month and the experimental phase lasted 2.5 months. Comparison between the two phases showed very substantial increases in the percentage of occasions when the parent delayed in correcting the child for five seconds, the percentage of

occasions when prompts were given to assist self-corrections and the number of parent praise statements (these were particularly infrequent in the baseline period). All children reached ninety per cent accuracy on several successive book levels in home reading, but improvement in this matter was shown by only two students at school. Tutoring procedures, in the form of opportunities to read to an adult, were used in school for these students, and this led to subsequent improvements from three to nine months in book level for four of these students. Gains in reading age (Neale test) were on the average 6.5 months for the experimental period of 2.5 months but only 1.4 months during the one month baseline period.

The Birmingham program (Glynn, 1985) was very similar to the Auckland. It involved four boys with reading delays of over two years using the same training procedures and measures of change with baseline and experimental phases. Three of the parents did not praise at all during the baseline phase. Praising, prompting and pausing increased markedly during the three-month experimental period. An average of 6.5 months gain on the Neale test (accuracy) was shown during the experimental phase. The child chose the books for himself in this study. Carry-over to the school situation occurred readily; the children read to the teacher regularly as part of the school's program.

Love and Van Biervliet (1984) carried out a study using the Auckland approach with the additions that child behaviour was also observed, and a follow-up or "maintenance" period of observation was added to the baseline and experimental periods. The results confirmed the two previous studies in that the experimental phase saw a decided increase in parents' praising, prompting and pausing behaviour, which was maintained during the maintenance

phase. In addition the children increased their self-correcting behaviour both with and without parent prompts during the experimental phase, and this improvement continued during the maintenance phase. These improvements also generalised to the classroom settings in this study the baseline phase was only one or two weeks for parents; the children's baseline behaviour was observed during oral reading in school until a basic pattern was recognised. No measures of change in reading competence were used.

Mudre and McCormick (1989) conducted a study closely similar to the Auckland model, but strongly framed within psycho-linguistic theory. Parents were trained to pause until the sentence ended, and to correct only those miscues which disturbed meaning. They were also trained to give prompts by asking the child to repeat the sentence, sounding only the initial sound of the miscued word, but were not trained to give other meaning-oriented prompts. They were also trained to praise for self-corrections. Involved, were six grade one students, aged 7 to 7.7 years who had difficulties in learning to read, and their mothers (middling SES). There was a baseline period of one week, an experimental phase of five weeks and a maintenance phase of one week. The three parent behaviours were trained separately in three sessions spaced throughout the experimental phase, the maintenance period for each behaviour being regarded as that period immediately preceding the training session for that behaviour. Parents audio-recorded each session and each training period was followed by a home visit and a telephone call, the visit being used to give guidance based on an examination of the audio-tape.

The children's behaviour and understanding was also monitored using pre- and post-maintenance period video-tapes of the child reading (a) a basal reader and (b) a trade book (i.e. a "real" story book), and answering comprehension questions. The results showed a

high rate of success in training the parents in all three behaviours, which all showed large and significant increases in the experimental phase and were maintained at the same level in the maintenance phase. The children also showed significant reductions in error rates and significant increases in the use of context, self-corrections and comprehension. All but self-corrections showed a slight improvement in the maintenance phase. Children's self-corrections were also examined on the audio-tapes of the home sessions, showing a significant increase. Both these and the parents' pausing for self-corrections continued to show an increase in the second phase of the experiment after the training session for use of context clues.

Some additional information on PPP is available in Glynn (1985), who reports that, Scott and Ballard (1983) conducted a study with four 11-12 year old students with reading deficits of three to five years. This involved training parents in the use of the praise, prompt, pause techniques with active cooperation by teachers. The experimental period covered 3.25 months and results in gains in reading age of from 32 to 36 months.

He also reports,

> "Since 1980, a further ten small-scale intensive studies have been reported, in which the Mangere Home and School Procedures have been employed successfully with children experiencing reading difficulties. These studies have been reviewed by Glynn and McNaughton (1985). Six of these studies also involved parents as tutors of their own children."
> (Glynn, 1986:78)

These studies also showed the

> "...replication of gains in tutoring behaviours by parents and matched reading gains by children".

There seems, then, to be solid evidence both on the effectiveness of these training procedures in affecting parental behaviour and on improvements in children's reading

competencies during the experimental period.

In Australia, the pause, prompt, praise approach has been taken up by Kemp (1988) within a whole language framework. His 'Parents as Tutors' program has been operating at Canberra University since the early 1980's. Parents with children having reading difficulties are referred to the program or refer themselves. Often there has been a long history of attempts to offer remedial treatment and the children concerned usually have substantial reading difficulties. Parents' pre-training behaviour is observed and video-taped, revealing that many parents show a pattern of intrusive intervention to correct their children's reading aloud, and it is apparent from interview responses and observations that there is often an amount of friction in these episodes. The program provides a ten week training program which focusses strongly both on training parents to pause, prompt and praise and on a psycho-linguistic or whole language framework within which these behaviours are presented. Concurrent with the last six weeks of the ten week course the parents tutor their children at home and from time to time receive assistance from trainee teachers at the University. There is provision for further continuation of the program, with assistance, for families in need of it. Unfortunately, Kemp's results do not lend themselves to presentation in a form that compares with the results already presented. Suffice it to say that the evidence shows considerable improvements in parents' tutoring styles in the direction of encouraging a more autonomous, self-directing, self-correcting meaning-related reading style on the part of the children.

Kemp's program has been made available in a pack entitled "Readers, Writers and Parents" put together by Dundas and Strong (1987). This is an instructional pack

containing overhead transparencies and instructions for presenters as well as a parent manual. It presents a ten-session course, which has achieved some popularity in Australia. At a conference in Melbourne held in 1990, it became apparent it was being used most readily with parents of 'normal' readers rather than those with reading difficulties, for whom it was originally intended.

As with the behavioural studies, the PPP studies indicate a low level of praising their children by parents hearing reading without training, and a strong tendency to intervene quickly to correct children's miscues. But training can ameliorate this situation. Parental involvement also appears to improve children's reading, but as with the behavioural approach we cannot be sure that what is at work is the PPF method. It is of interest to note how similar are the behavioural and PPP methods, and, moreover, how similar we can find techniques based on behavioural theory on the one hand and psycho-linguistics on the other. As with the behavioural method, PPP is relatively expensive in training procedures and sample sizes.

Paired Reading

'Paired Reading' was initially designed by an educational psychologist, Roger Morgan, with the aims of being (l) flexibly adaptable to the needs of a wide range of children with reading problems and (2) capable of implementation by the child's parents (Morgan and Lyons, 1979). It was founded explicitly on behavioural learning theory and designed to directly affect children's reading behaviour rather than teaching underlying skills.

In the first of its two phases the parent and child read aloud simultaneously a passage

from a book chosen by the child, the parent thus providing "participant modelling" for the child, acting as a continuous prompt. The child must clearly pronounce all words and the parent must stop to allow self-correction of any mispronounced word. The parent needs to read at the child's pace, taking care that the child does not "shadow" the parent's reading.

In the second phase the child indicates by a knock or some other signal, readiness to read independently, the parent stops reading and reinforces the child's move to independent reading which then continues, the parent correcting minor errors. Simultaneous reading recommences if the child cannot successfully self-correct errors within four seconds; self-corrections receive reinforcement. In the original study parent training appears to have been given close attention, and parents' behaviour during implementation was monitored and guided. An important behavioural principle in the program is that of fading parents' reinforcement as the child passes to independent reading.

The 1980's saw a steady increase in reporting of Paired Reading Projects in Britain, many carried out by educational psychologists. From 1985 onwards annual conferences took place on the subject, and the Paired Learning Bulletin was initiated to report their proceedings. Keith Topping an educational psychologist with Kirklees Metropolitan Council has been a major driving force in these developments. The Paired Learning Bulletin, renamed 'Paired Learning' in 1989 is published by the Kirklees Metropolitan Council. The technique has been applied to peer and to cross-age tutoring, as well as adult literacy tutoring, and is being adapted to use with mathematics learning and spelling.

Topping (1980, 1989a) has produced a number of general descriptions of Paired Reading (see also Pumfrey, 1986) and the book by Topping and Wolfendale (1985) contains a lengthy section on the theory and practice of Paired Reading. Morgan (1986) has produced a paired reading handbook.

The Paired reading Bulletin is available as an ERIC file as follows: 1985, ED285124; 1986, ED285125; 1987, ED285126; 1988, ED298429.

It is evident that the technique is enjoying considerable popularity. A recent bibliography by Topping (1989b) has identified some 151 publications, some of which report more than one project. In addition, a large scale project within the Kirklees locality dealing with 155 sub-projects (Topping, n.d.(b) is not included in that review. It is likely that there are many more unpublished projects.

It is therefore not surprising that there should be some variations in the way in which the method is applied. A major theoretical emendation has been to claim advantages for the method from a psycholinguistic perspective, with an emphasis on the contextual and syntactic cues offered to the child in simultaneous reading and the parallels with the common informal practice of parents reading to children and the benefits this may bring from a psycho-linguistic or whole language perspective (Robson et al., 1984; Miller, 1985) (see below). Some of the points of variation from the above method are:

* In some schemes reading together is practised for a period of a week or more before the independent reading phase is taught and begun (e.g. Robson, Miller and

Bushell, 1984).

* The parent waits for five rather than four seconds for the child to self-correct (Kirklees Metropolitan Council, 1989).

* The use of the method in a school-based situation with a larger number of children than in the clinical situation used by Morgan and Lyons (1979) (Bushell et al., 1982).

* The child or parent pointing to the words as they are read to, to help with pacing the reading (Kirklees Metropolitan Council, 1989).

* The use of home visits to monitor implementation and to give psychological support and encouragement (e.g. Lindsay, et al., 1985).

* The duration of the program has varied considerably between projects (see Table One).

* The method of recruitment into projects has varied, such that the refusal rate varies between them. Also assignment to project and comparison groups has varied, some using matching and random assignment, and others using self-selected non participants as the source of the comparison group.

* There has been no uniformity in identifying the target population, except that the children concerned have shown some degree of reading "deficit" comparing their reading age test performance with test norms. (One source of valuable uniformity has been the widespread reliance on the Neale reading test in these studies).

* Children of a wide variety of age levels have been included (see Table One).

* It seems that there are considerable variations between parents in the extent to which the method is adhered to (Elliot, 1989; Wareing, 1985). This applies also to peer and cross-age tutoring (Winter,1988).

The effects of most of these variations have not been systematically examined in controlled studies. It is clear then that we are not dealing with an unambigous single method, rigourously applied in experimental situations, but with a body of school-based practice which may vary according to the vagaries of each situation. While this presents considerable problems of interpretation of the various studies presented below, we are dealing with practice in normal school situations, the only additional resources usually being in the form of assistance to set up projects from educational psychologists employed by the local educational authority. This is then a body of practice from which it is relatively easy for teachers, administrators and educational psychologists to draw lessons which they can readily apply and adapt to their own situations, without need of substantial extra resources.

Effects of Paired Reading Projects

The popularity of Paired Reading is due to the apparent success of the method in improving the reading performance of below average readers, who are the usual clients.

The most common evaluation approach has been to administer the Neale Reading Analysis (1966, 1988) before and after the project and to compare average gains in reading comprehension, and accuracy, expressed in reading ages, with the duration of the project. Table 1 illustrates this approach showing that while the average project lasted 1.9 months the average gain in reading comprehension was 13.0 months and in reading accuracy was 8.2 months. It is rare for a project not to show a considerably larger gain in reading age than the length of the project.

Topping's (n.d., (a)) review calculated gains as ratios of the length of the project. His analysis of the results from twenty projects shows an average ratio gain of 5.19 (n = 337) for accuracy and 10.82 (n = 245) for comprehension.

A recurring theme is the effects on parents' enthusiasm for the method and on children's interest in reading and their confidence and fluency in reading aloud. This has been emphasised as an informal observation by many writers (e.g. Heath, 1985; Bush, 1983) and there are some case studies which elaborate the point (e.g. Spalding et al., 1984). Topping and Whiteley (1989) provide more systematic evidence from a large project in Kirklees involving 85 schools and 1464 parents. Parents, teachers and children completed questionnaires, whose results are displayed in Table 2. These results show very positive reactions from parents and children, though less positive reactions from class teachers. It may be that the benefits did not always transfer from the home to the school situation (compare McNaughton et al., 1981). The table also shows a high rate of positive response from children tutored by parents than those tutored by peers or older children. The degree of the parents' and the children's favourability in rating the programs correlated significantly with the child's reading gains, though the teachers' did not.

Comparison of the pre-post reading age gains with chronological age gains is subject to a number of objections:

1. Gains may be due to increased familiarity with the test, and with the tester, especially in a situation in which the tester has been associated with a novel and enjoyable experience.
2. Some controlled studies using project and comparison groups have shown

improvement in reading ages, beyond the chronological age, in the comparison groups (e.g. Miller et al., 1986).

3. An attempt at one additional comprehension question on the Neale test can bring about an improvement in reading age of two to three months.
4. This could be the result of an increase in interest/motivation rather than being due to the method itself.
5. The method does not compare the rate of gain before the project with the rate of gain during and after the project, which is a more direct indication of success than comparison with test norms. (Not an objection to baseline/experimental comparisons).
6. One cannot be certain whether the gains enjoyed are the result of a Hawthorne effect.
7. One cannot be certain whether any gains occurring are the result of the increased attention received by the children.
8. The method places considerable reliance on the validity of the test involved, and on this method of studying children's reading development.
9. The gains could be due to some uncontrolled factor e.g. the teacher's skill, or a change in teaching behaviour.
10. The Neale test requires the child to read aloud; gains may reflect the practice in reading aloud at home, rather than progress in comprehension.

A more satisfactory evaluation approach, which avoids some of these problems, is that of the quasi-experiment using a control group. Topping's (n.d. (a)) review of twelve such studies, involving 212 experimental and 195 control subjects, showed the following ratio gains: reading comprehension: experimental, 3.91 and control 1.93; reading accuracy:

experimental, 3.13 and control 1.19. All the differences reported above reached a high level of statistical significance.

However, in these control-experimental comparisons in only 5 of the studies were the subjects randomly assigned to conditions. In two the control group was chosen from students whose families did not respond to the invitation to take part in the program, a serious flaw in the research design. For three studies no information was given on method of allocation and for two some other systematic method was used. (See Table l(d)).

Topping (n.d., (a)) also provides an analysis of effect sizes, for those four quasi-experimental studies which published information on variances. The average effect size was 1.57 for accuracy and 1.41 for comprehension, figures which are relatively large in the meta-analytic literature. All but one of these four studies had random assignment to experimental conditions.

These controlled studies do not meet the objections of a Hawthorne effect and of the extra attention received by the child. It may well be that the effects are produced largely by involvement with parents, and not by the Paired Reading method. There is a small number of comparison studies which have compared the effects of paired reading with involving parents using some other method, and with a control group.

Burdett (1989) conducted a study in two schools, serving military families in Hong Kong; 24 children with reading ages of one year or more below their chronological age were

chosen in each school. In one school they were assigned to treatment groups by the principal, in the other they were assigned randomly. The treatment groups were: paired reading, pause, prompt praise (referred to as individualised reading) and a control group. Each of the first two groups were divided into two groups of equal size one of which received the instruction at home from their parents, the other receiving instruction in school from teachers on the researcher. This made it possible to test for the effect of the form of instruction per se, and for the influence of parents.

The results showed a significant effect for both experimental groups, using the Wide-span reading test which was administered at the beginning of the project, at the end of the project eight weeks later and at a follow-up four weeks later. The differences between experimental groups were not statistically significant. Parental involvement did not make a significant difference to the paired reading outcomes but did produce a significantly higher gain for the pause, prompt, praise method. These differences also remained at the four week follow-up testing.

Lindsay, Evans and Jones (1985) compared the effects of Paired Reading with a method described as 'Relaxed Reading', which emphasised the virtues of a positive and rewarding approach by the parents and the demerits of the opposite. The parents practised the method with the child under supervision in a session at the school. This method was designed as being inherently simpler than paired reading, and not in need of home visits to monitor implementation. Subjects were 20 children from the first two years of a middle school, (average age 9 years 4 months) these 20 children were those with the lowest reading accuracy ages (Neale test) at these grade levels. Children were allocated to

four conditions, balanced for sex and age:

1. paired reading instruction with monitoring by weekly home visits.
2. Paired reading and telephone monitoring.
3. Relaxed reading and visit monitoring.
4. Relaxed reading and telephone monitoring

The Neale test was used as a pre- and post-test; the project lasted for six weeks. The results showed that all four groups progressed at a faster rate than the duration of the project of 1.2 months - a range from 9.2 to 18 months for comprehension and from 5.6 to 10.4 months for accuracy; these rates of gain reached a high level of statistical significance. However there was no significant difference between the relaxed and paired reading methods, using an analysis of variance; neither was there between the phone versus home visit conditions.

Jones (1987) worked with children aged 6-7 years allocating 21 to a Paired Reading and 21 to a 'Listening' group for a 10 week project. The results using the Neale test, showed no statistically significant differences between the gains for each group, but also revealed the familiar pattern of gains far exceeding the length of the project.

Winter (1985) compared the Paired Reading with the Pause Prompt Praise method with parents of 8-11 year old below average readers (total n = 10). The results showed no significant differences in error rates, self-corrections or refusals. Families were assigned to groups on the basis of parents' preference for the method.

Dening (1985) compared three groups, using Paired Reading, Pause Prompt Praise and Listening, with 30 in each group. The children were aged 5-9 years and were of average or below average reading competence. Each of the experimental groups showed statistically significant gains compared with the control group, using the Neale test, but their gains were not significantly different from each other.

These studies throw no light on whether any method is superior among the 'Listening' 'Praise Prompt Pause' and 'Paired Reading' methods. However, they are small in number and all but Winter's (1985) study depend on the validity of the Neale test to reflect accurately the effects of the treatments. It would be especially illuminating to examine differences between methods on matters such as the children's reading strategies and the processes by which parents and children implement and participate in the various methods. Unfortunately, I have been able to locate no such studies.

Jungnitz (1985) carried out a study comparing the effects of Paired Reading with the approach used in the Belfield study (see below). There was differential recruitment between the two groupings, the former receiving ten Asian families with a poor command of English (often it was siblings who were the tutors); the latter recruited largely from Asian families with better language skills. A comparison group was also studied (without random assignment). Both treatment groups scored significantly higher in their gains on the Schonell Word Reading Test and the Neale Reading test both accuracy and comprehension). The paired reading group also showed significantly greater gains than

the other treatment group on Neale accuracy. Because of distinctive recruitment into the two treatment groups and the frequent participation of siblings in one group, this study cannot validly be claimed as support for the Paired Reading method with parents.

Topping (1989) has directed a large project within the Kirklees area involving 155 sub projects in 83 schools (18 high schools, 29 in middle schools, 1 in a special school and the rest in Primary Schools) (Topping, n.d. (b); Topping and Whiteley, 1989). The project has involved 1466 children and their families; it has also examined effects of cross-age and peer-tutoring using the paired reading though this review does not deal with these matters. It is able to throw light on a number of issues.

Some 23 projects provided baseline data collected well before the beginning of the project and showed that the gain in reading accuracy was 1.37 times the normal rate prior to the program and reading comprehension 2.24 times. This provides a more satisfactory test of the success of the program than simple pre-post comparisons and showed the gains are unlikely to be an artefact of the testing situation.

The report does not make clear whether these baseline observations included observations of parent tutoring practices before the experimental phase, though this is doubtful.

Some 37 projects involved a project-control comparison, with little evidence of selective recruitment into the groups. These results showed:

	Average gain in months	
	Project	Control
Reading accuracy	7.42	4.69
	(n = 580)	(n = 446)
Reading comprehension	9.90	6.08
	(n = 170)	(n = 159)

All the above differences reached high levels of statistical significance.

Other issues in Paired Reading

In this section a number of other issues will be examined: practice, sex differences, follow-up, type of school, school experience with Paired Reading, organisational quality, socio-economic status, home visits, implementation of Paired Reading and changes in reading behaviour. Special attention will be paid to the Kirklees study. Unless otherwise stated all reference in this section is to the Kirklees study.

Follow-up studies were divided between those done at seventeen weeks or less and those done at seventeen weeks or more. In six programs with short term follow-up (an average of 9.5 weeks after the treatment ceased) reading accuracy was 2.46 times 'normal' and comprehension 3.01. Nine programs with long term follow-up, averaging 37.5 weeks post treatment, showed reading accuracy gains of 1.33 times normal (n = 140). Gains do seem to be sustained.

Carrick-Smith (1985) provides evidence from a controlled study, of paired reading having an effect up to twelve months after completion of the project, Bushell et al (1984) report a similar finding for a six month follow-up, and Burdett (1989) for a four week follow-up.

Practice Neither frequency of reading nor total time spent reading nor total time spent reading during the project related significantly to reading gains in either accuracy or comprehension" (p.127). See Miller, Robson and Bushell (1986) for a similar finding.

Sex differences The analysis of pre-post gains did not show significant differences for boys and girls, but the controlled studies showed boys made very significantly greater gains than male controls, and greater gains than female participants who did not significantly outgain female controls.

Type of school There was no clear hierarchy according to the ages of the pupils in the different types of school; first schools, nursery schools and mid-schools performed better than Primary schools and High schools.

Experience of using 'Paired Reading': There was a significant improvement in schools carrying out a second project, which was maintained for the third project, but tailed off for the fourth and fifth. It seems that success does not become institutionalised.

Organisational quality: The project leader rated sub-projects for the smoothness and consistency of their administration and this showed a significant positive correlation with project gains.

Home Visits and Socio-economic status: Schools were classed into SES quartiles, these results showing that the bottom and second quartiles were over-presented and the top quartile under-represented by comparison with national statistics. The results showed "...a very strong tendency for participants of below average SES to yield above-average pre-post gains in accuracy and comprehension with the lowest SES participants doing particularly well" (Topping, n.d. (b):122). Even in the lowest SES group, home visits increased pre-post gains in accuracy to a statistically significant degree. For the top two quartiles of SES it was difficult to make conclusions about the effects of home visits, though there was a tendency for home visits to show an effect.

These are particularly valuable findings given the lack of control for the home visit variable in previous studies, and the importance of finding ways of effectively involving 'hard to reach' families. Though they do not find support in the Lindsay et al. (1985) study, that was a much smaller study which did not differentiate families according to socio-economic background. Strictly speaking, none of the above results from the Kirklees study can be claimed as an effect of the paired reading method per se, as against some other method of parent involvement involving approximately the same amount of parent training, commitment, and attention to children. Nevertheless, these results lend considerable support to programs of the Paired Reading type.

We now leave the Kirklees study for other matters.

Implementation of paired reading

Miller (1986) provides evidence that children from families which adhered most closely to the Paired Reading method tended to show greater gains in reading test performance. The variables examined were: the frequency of: the child remembering to signal a change to independent reading, the parent responding quickly and of the parent recommencing simultaneous reading when the child made an error.

Bushell et al. (1984) in making observations used checklists to record adherence to the method. These were then rated as of "high" or "low" quality (no inter-rater reliabilities are given). For simultaneous reading 44 checklists were rated of high quality and 10 as of low quality. For independent reading, the figures are 37 and 17 respectively. They also found that some parents had difficulty about "not making a fuss about errors". There were also difficulties with praising the children for
signalling and for independent reading.

Miller et al. (1986) enquired into the amount of time spent reading with the children in their project. The average was 7.6 hours and the range 1.4 to 20.7. This shows a considerable discrepancy from the total of 12 hours recommended at the training session (i.e. 20 minutes per night, six nights per week for six weeks).

The Bushell et al. (1984) study suggests that it is not too difficult to obtain reasonably close adherence to the method with a large proportion of parents. However, Elliot's (1989) questionnaire study showed great variation in parents' adherence to the method. In

her sample of 30 families she found that only 10 engaged in full paired reading during the initial phase, the numbers dropping even further during subsequent phases; examples of other methods used were: "informal listening", simultaneous reading, independent reading only, a mixture of paired reading and informal reading, silent reading and "relaxed reading". Elliot (1989) concluded that paired reading will usually be integrated with some pre-existing method.

Changes in reading behaviour: A small number of studies have examined changes in the patterns of children's miscues. These are: Bush (1982) Winter (1985), Scott (1983) and Green 1987). Topping writes of studies of Paired Reading in which parents, peers of teachers were tutors, "...in five of these studies error rates have been found to reduce in Paired Readers and in no cases have error rates increased. In six cases, Paired Readers showed decreases in refusal rates and in no case an increase. In six cases, use of context showed an increase, in one case no difference was found and in no case was there a decrease. In four cases the rate or speed of reading showed an increase and in no case was there a decrease, (but it should be noted that studies utilising the Neale Analysis as a measure of rate of reading have yielded increases and decreases). In four studies, self-correction rate showed an increase and in no case a decrease. In three cases the use of phonics showed an increase and in no case was there a decrease. Although many of the differences cited did not reach statistical significance and only a few studies used control groups or comparison groups which were non-participant or utilised another technique, nevertheless strong consistent trends emerge from all these studies considered together. The general pattern is of Paired Reading resulting in fewer refusals (greater confidence), greater fluency, greater use of the context and a greater likelihood of self-correction, as

well as fewer errors (greater accuracy) and better phonic skills.

Recruitment: The studies reviewed give hardly any information about how representative are the families given that the children concerned are in some way below average in reading competence for their age group. A common practice has been to identify children of below average reading competence and to invite their parents to take part. Usually no details are given about what proportion of parents refuse to take part. An exception is the study by Robson et al. (1984) which showed 94 children to meet the selection criterion; 40 of these families did not take part, the reasons being:

Possible parent illiteracy	4
Parent unwillingness	16
Child unwillingness	1
parent did not attend meetings	12
Excluded by E.P.	3
Social reasons	1
Left area	2
Unclassified	1

The author's comment, "in other words about three out of five of the most seriously failing readers took part" (p.179). They also provide evidence that many of these participating families were from socially disadvantaged circumstances and take this as optimistic news in the face of teachers sceptical abut the effects of involving disadvantaged parents. That is an important point, which perhaps needed to be made in Britain in the early 1980's. But as the news of the success of parent involvement programs spreads and teachers' prejudices of this kind become weakened, we need also to

think of the 40 per cent or so of families which did not participate. Toomey's (1989b) research cited above has shown how easy it is for teachers in disadvantaged schools to work most readily with enthusiastic parents who most readily visit the school. But we must not assume that unwillingness to visit the school means lack of interest in children's education nor a readiness to help. What so often is a barrier is lack of confidence or a knowledge of what to do. Topping's(n.d.(b)) research has shown the particular effectiveness of home visits with disadvantaged groups (see Toomey, 1987; Toomey and Sloane, 1988). Reach-out strategies are very important with such groups, and we need systematic studies which employ such an approach to recruit families of students with reading difficulties. Table One shows how few studies commented on how representative was the sample of parents. Whitaker (1983), in an Australian study, comments that inviting parents to take part because of their child's reading difficulties resulted in a very low proportion of parents refusing, in a working class locality. It may be that this issue received little comment because few parents refused to participate. The point is that a personal invitation to take part because of some special need of the child in question is likely to be much more successful in enlisting parental support than the kind of general anonymous invitation referred to in Toomey's (1989b) research.

Intelligence: Miller et al. (1986) provide evidence that intelligence test performance did not correlate with reading gains produced by Paired Reading and drew the conclusion that low intelligence on the part of the child should be no impediment to using the Paired Reading approach.

'Parents' Listening'

There are those (e.g. Swinson, 1986; Hannon, 1989) who have argued that elaborate schemes of parent training as in Paired Reading, PPP or behavioural schemes are not necessary. They point to the relatively heavy demands that training procedures can make, the success of projects not requiring such training, and the long-standing reliance of schools on parents to carry out, unsupervised and without training, the hearing of reading.

'Parent listening' schemes in this paper will be referred to as those schemes not requiring processes of training or supervising parents in the implementation of hearing reading, though this does not preclude the use of methods of informing parents such as brief periods of instruction and the use of pamphlets. That is, parent listening schemes do not specify closely the procedures to be followed. Instruction, if given, tends to concentrate on general principles rather than specific procedures.

The evidence of the Dagenham (Hewison and Tizard, 1980) and Haringey (Tizard et al., 1982) projects has been cited as showing the effectiveness of parent tutoring without heavy programs of parent training.

Hewison and Tizard (1980) report three studies of home influences on children's reading performance in the working class area of Dagenham (a homogeneously working class locality with few immigrants and non-whites). Mothers of children aged 7-8 were interviewed and the children's reading competence tested. The results showed that parents hearing their children read (not reading to children) was a strong predictor of reading

attainment. Partial correlations suggested that parents coaching their children in this way was a rather more powerful predictor than were interview replies to questions about maternal language behaviour (Brandis and Henderson, 1970) which had moderately simple correlations with reading competence. Coaching also partialled out the correlation of IQ with reading performance, and showed a strong connection to reading performance at each level of IQ. Just under half the children received regular coaching, and the coaching parents generally speaking displayed very positive attitudes to assisting their children's schooling. The difference between the coached and non-coached children was just over one standard deviation on the reading test.

The Haringey study (Tizard et al., 1982; Hewison and Schofield, 1980) was a carefully conducted natural setting experiment carried out in six schools. Haringey is a working-class locality with a mixed indigenous and immigrant population housing many families of Asian and Carribean origin. Schools were randomly assigned to two experimental conditions (parent involvement and extra teacher assistance) and a control condition. Two grade two classes within each of the experimental schools were randomly assigned to control and experimental conditions. Pre-testing showed no significant differences in reading test performance between the two experimental groups and their within-school controls. The two extra teaching classes received the extra help of a half-time reading specialist each for two years. Parents in parent involvement classes were invited to take part in a two year program of hearing their child read two to four times a week for two years. Home visits and in-school meetings were used to recruit parents. All families agreed. No particular method of hearing reading was specified though demonstrations of good practice were made in home visits. Families were visited two to three times per

term and the small number using punitive practices were gently encouraged to take a more positive approach. Parents who could not read English were encouraged to participate while a family member or friend listened. Between school differences in initial scores on the London Reading Test meant that control comparisons were largely confined to the within-school controls. There were 51 experimental and 86 controls from the two parent involvement schools and 45 experimentals and 66 controls from the two 'extra teacher help' schools.

The authors examined gains in reading test performance over the two year period. The parent involvement group clearly out-performed the other two groups, reaching a level above the national norm for the test, significant gains being "apparent amongst below average, average and above average readers. A three year follow-up (Hewison, 1988) showed that this advantage was maintained for the parent involvement group; 63.4 per cent of them were reading at an above age level standard, compared with 36.2 per cent of the within-school controls and 48.7 per cent of the children in the test standardisation sample.

Hannon (1987) (see also Jackson and Hannon, 1982) reports a study described as attempting to replicate the Haringey study, carried out in Belfield, a somewhat depressed working class community in the North of England. In fact the project reads more like a school-based project initiated and carried out by the school concerned, rather than a natural setting experiment, initiated and controlled from a research institution. Hannon (1987) describes his work as evaluating the results of an already established project. The project took place in one school with three successive cohorts of children aged 5 to 8,

each cohort beginning in the second year of schooling and continuing in the project for three years. Some 72 children were involved for three years each; the whole project lasted five years. Extra resources were available in the form of one teacher day per week. This enabled home visits to be made to the families concerned. Instruction of parents took place at meetings in school, via pamphlets and home visits. The "dos and don'ts" sheet (Jackson and Hannon, 1982:9) given out to parents emphasised the importance of a relaxed, non-threatening atmosphere. It also recommends that parents read the page first before the children read to the parents. In any case with the younger children it seems highly likely that reading to them would need to be a more frequent activity than hearing them read. Reading cards detailing the reading to be done and signed with comment by parents were issued and collected weekly.

Evaluation of the project occurred by comparing performance on reading tests at the end of the project with the performance on the same tests (N.F.E.R., 'A', and Young's Group Reading Test A) of children from the cohorts which had preceded the project children through the school, taken at the same age as the post project tests of the project children. These tests failed to show significant differences between the project and pre-project group. Comparisons were also made between the frequency of hearing reading before the project begun, among the project families, and afterwards. This showed a marked increase. Hannon (1987) compares the pre-project rate of the project group with the rate in the Hewison and Tizard (1980) study, claiming that they are quite similar. However, given that the Belfield children were aged 5 and the Dagenham, 7, one would expect a relatively low level of hearing reading with five year olds. Indeed the idea of parents informally 'hearing reading' on a regular basis with five and six year olds, unlikely to be

independent readers, seems odd. Classes in the school were organised on the principle of vertical grouping, so it seems highly likely that project and pre-project children would be in the same classes.

Bloom (1987) reports a further study in the Infants classes of six schools, aimed to replicate the Haringey study, but without the expense of home visits. Comparison classes from two other schools were also studied. Pre-post gains on Young's Group Reading Test did not show significantly greater gains for the project group over the six months of the project. The familiar pattern of enthusiasm amongst parents and students did, however, emerge.

Ashton, Stoney and Hannon (1986) report a study based on the Haringey study, but without home visits. The project lasted nine months in two top infant grades, one being the experimental and one the control group. The results showed no significant advantage for the experimental group in the pre-post testing procedure; both the teachers and the parents felt that the children's reading had improved as a result. However, a comparison of the low competence readers did show a significantly stronger gain in the project group.

Friend (1983) sub-titled his paper "After the Haringey Reading Project". "Parents were invited to a meeting where a speaker outlined the importance of the home environment in stimulating children's language and reading" (p.8). The Haringey project was described and parents invited to take part. Volunteers formed the experimental group (n = 20). Advice to parents was given from a psycholinguistic perspective, emphasising the use of contextual clues rather than telling children the correct word. They were also to note

down major errors and seek advice from the teacher about how to deal with these. No phonics teaching was to be done. Hearing reading occurred thrice a week. The project lasted 13 weeks. A control group was randomly selected. Both groups were pre- and post-tested with the Schonell Graded Word Reading Test and the NFER Reading Test AD. Ages of children were 7 to 11. No significant differences emerged between the experimental and control groups in reading test gains. Strong informal support for the program was recorded by the author. The children in the group do not appear to have been retarded.

Swinson (1985) conducted a study of parent listening in which parents were advised to listen to their children in a relaxed way, avoiding negative reinforcement, with plenty of praise and a non-distracting environment. Advice was also given to deal with miscues according to psycho-linguistic theory, along the same lines as in the Mudre and McCormick (1989) study. However, no training in these practices was given. The children were 9.0 years old, on average, and their average reading delay 2.2 years. The program was planned to last for one term but was extended to two terms because of its success. Average gains in reading age were 11.8 months over the two terms. Before the project, some 16 per cent of parents reported hearing reading every night, 59 per cent occasionally. During the project "parents and children rarely missed a night's reading" (Swinson, 1985:69).

Knapman (1985) reports a project in which six 8-9 year old children identified as "educationally sub-normal" had their reading listened to at home by their parents for an 18 week period. There were six training sessions, half of which involved teachers observing

parent-child pairs and giving guidance. No details are given on the nature of the instruction. Pre-post gains in reading age of 9.2 months for both accuracy and comprehension (Neale test) were made.

The use of reading diaries which specified the child's reading task with the parent at home was the subject of a study by Gaines (1989), who acknowledges a debt to the Haringey project, and specifically rejects the modern equivalent of chauvinistic chants and bone rattling of the behaviourist witch doctors of paired reading" (p.161). There were ten poor readers aged 8 years, 5 months to 9 years 11 months in four different classes in one school. The program lasted five weeks, with gains in reading age averaging 6.3 months occurring during the six week period of pre- and post-testing. Informal comments from parents revealed their enthusiasm for the project.

Two other studies using a parent listening approach with poor readers (Sigston et al., 1984; Bartlett et al., 1984) are detailed in Table One. Both showed much larger gains in reading age than in chronological age.

The study by Cooknell (1985) described in Table One might be claimed as a 'Parent Listening' scheme. It is the only such study with poor readers in this review which failed to report considerably larger pre-post gains than chronological age gains.

CONCLUDING REMARKS

1. In 1986 I concluded a review of parents and reading studies, "We need no more studies telling us that involving parents in home reading programs is a useful strategy. That has already been confirmed." "But we must also conclude that we know very little about what particular strategies are likely to be effective (a) in the organisation of the home-school relations program, and (b) in guidance as to what help can be give" (Toomey, 1986:29). In respect of programs with below average readers, we have not advanced a great deal with respect to (b), but we have learnt a little with respect to (a).

2. It is clear that special purpose, short-term programs of ten weeks or less with a clear specification of objectives and procedures and careful attention to parent instruction and training can bring about considerable growth in below average readers' reading competence, as the behavioural, PPP and Paired Reading research demonstrates.

However, we cannot say which of the three main approaches is the most effective. The small number of comparative studies will not tell us. The behavioural and PPP studies have such small numbers that no reports of standard deviations are usually given, thus making difficult the calculation of effect sizes. The number of studies of this kind is too small to warrant meta-analysis. The number of Paired Reading studies is larger, but their quality is uneven and in many cases we lack information on standard deviations. Topping's (n.d. (a)) calculation of effect sizes for four paired reading studies shows them to be substantial. However, there is an

important caveat. The Neale Analysis (1966, 1988) used by most of these studies is an individual test in which the subject reads aloud to the tester. This gives children who have practised reading aloud a considerable advantage over those who have not in taking this test. It may well be that this will give them much greater confidence in dealing with the tester and thus a greater readiness to attempt comprehension questions. As we have seen, each additional successful attempt could bring about a gain of two to three months in reading age, a matter of some importance, considering how short the programs usually are.

The parent listening programs do seem to have been less successful compared with the others. The studies of Hannon (1987), Ashton et al. (1986) and Friend (1983) failed to show significant effects. With the exception of the Haringey study, all other 'listening' studies showing substantially greater gains in reading age over the length of the project were with below average readers (Swinson, 1985; Gains, 1989; Knapman, 1985); Sigston et al., 1984; Bartlett et al., 1984).

While the Haringey study has been a widely cited inspiration to further study in the U.K., it is apparent that it is unusual, compared with the bulk of studies reviewed here, in being quite unselective with respect to the children's reading competence. The only parallel studies in this review are those of Hannon (1987), Ashton et al., (1986) and Bloom (1987) which dealt with the full range of readers. The Haringey study was distinctive in that: it was well resourced; it involved only one class of children in each school; home visits were on a regular basis, and were made by the researchers; (it thus had a publicly known, and frequently reinforced connection

with a university research project). The Belfield study dealt with all the children in three cohorts in the school, lasted five years, dealt with younger children, some at an age when hearing reading would often be inappropriate, or not so clearly appropriate, and, being a community school, may have had a relatively strong pattern of home-school relationships among pre-project cohorts which formed the comparison group. There were only two teachers with the parent-involvement group in the Haringey study so the success of the project may, in part, be due to something special about them.

There is likely to be a considerable difference between a small research project involving one class and a project involving application of a school-wide or broadly based scheme. The former involves a clarity of focus and special attention to the participants that the latter is less likely to be able to achieve. This is likely to have been reinforced by the greater frequency of home visits in the Haringey project.

3. Mudre and McCormick (1989) make much of the importance of having clearly specified aims and procedures in working with parents. They cite two unsuccessful studies of parent involvement which lacked these (Doss, 1981; Holsinger, 1979) and point out the success of the highly controlled Auckland study (McNaughton et al., 1981). The findings of this review give strong support to their position. It is the studies with clearly controlled procedures which have revealed the most consistent patterns of success i.e. the behavioural PPP and Paired Reading studies. The Haringey study, for the reasons outlined above, was also able to achieve this controlled character. However, Toomey (1986) though citing four unsuccessful

programs of parent involvement in their children's learning which had weak training procedures, also cites three successful programs having similar levels of parent training. While there can be no doubting the efficacy of the programs of intensive training of the PPP and behavioural kind, the crucial question is, how little training can we get away with to produce an effect?

The answer probably lies in initially monitoring fairly carefully parental take-up of training, withdrawing support as seems appropriate. Further research is needed into techniques which would make this possible, and cost-effective, and their influence on students' learning.

4. These studies, especially the behavioural and the PPP, have shown that it is possible to change parental behaviour in desirable directions. And have also shown the effects of these upon children's behaviour. The results with respect to this matter in Paired Reading seem to have been more variable, which is understandable given the lower level of resourcing of most of the Paired Reading projects.

5. From the comparison of Parent Listening with other studies, it seems probable that studies focussing on poor readers are more likely to be successful. Both parents' and children's motivation to make a success of the experiment is likely to be strong. It is also possible that some of the children will be operating at a lower level than they are capable of because of the past experience of low success. Given what we know about informal parent assistance and students' reading development (Hewison and Tizard, 1980) it seems likely that many of the parents

have not been giving help, and the observation studies reported here indicate the low level of supportiveness of many parents' coaching strategies. It may be an exaggeration to say "The only way they could go is up", but there is probably some truth in that.

Perhaps one reason for the lack of success of some programs not targetted at families of low-achieving students is that many families were already providing the required support. We should think twice before using scarce resources on families not needing the support.

Much of the work reported here has been founded on an act of faith that the specific behaviours parents are trained in will cause improvements in children's reading. While we have a small amount of evidence that this is the case (Allington, 1980, 1983; Hoffman et al., 1984; McNaughton, and Glynn, 1981), we certainly are in need of much more. There are opportunities here to draw upon research into teaching effectiveness in the classroom to inform parent training programs.

6. Paired Reading has some obvious advantages over the behavioural and PPP approaches. It is simpler, requires less parent-training and appears to be capable of being used with relatively large samples.

All this makes it more attractive to teachers and administrators as an approach to

be used in schools. The advantages claimed for it are:

(1) Its procedures are simple and do not require lengthy training of parents (Robson, Miller and Bushell, 1984).

(2) It is likey to reduce anxiety for the child (a) because of parental support during the reading together phase and (b) the child is not exposed to long periods while the parent waits for the child to self-correct.

(3) There is a steady flow of syntactic and semantic cues to the child, based in behavioural and affective psychology and psycho-linguistic theory (Miller, 1986).

(4) The emphasis on child choice of books is likely to heighten interest in reading (Pumfrey, 1986; Robson, Miller and Bushell, 1984).

(5) The child decides when independent reading will occur.

(6) It encourages completion of the text.

(7) It provides a process of gradually fading out support for the child's independent reading (Morgan and Lyon, 1979).

(8) It can be used with children of differing ages.

(9) There is a novelty element for the child and a chance for a 'fresh start' away from an environment associated with low success (Robson et al., 1984).

(10) Involvement with a parent brings in a significant other important to the child (Pumfrey, 1986).

(11) Working at home provides increased time on task.

(12) The method is very cost effective.

(13) The parent-child relationship can have a more equalitarian flavour than the teacher child relationship, thus encouraging the child to have a stronger sense of ownership of the reading activity (Miller, 1986).

7. A repeated finding has been the parents' and students' enthusiasm for parents hearing reading and the effects on children's motivation for and interest in reading (Topping and Whiteley, 1989). Informal evidence on this matter needs to be treated with care. Some parents seem to respond enthusiastically to programs of this kind, even when there is no evidence that the program brought increased learning (Gray, 1976).

8. Share et al. (1987) have reported evidence of negative correlations between parents' hearing reading and the children's reading competence scores at the grade two level. Toomey (1989c) has presented contrasting evidence for the same grade level, and the evidence of Hewison and Tizard (1980) shows a strongly opposite finding.

Toomey's (1989c) conclusion from a comparison of his study with that of Share et al. (1987) was that there is some evidence of parents beginning to coach their children in reading, in response to the child's relatively low levels of reading development. This may mean that parents will respond well to invitations to hear their children read, but it may also lead to a response of the kind "we tried that and it didn't work" (Miller, 1986).

9. Topping's (n.d. (b)) results on the effectiveness of home visits to low SES families is an important finding. It testifies to the success of 'reaching out' to 'hard to reach' families. The following is from Toomey, 1987:27-8:

> "An experiment was conducted in which the amount of supervision from the school received by parents in a home tutoring program was varied systematically. Though no discernible effects on student learning were identified, the parents receiving more supervision, expressed higher levels of confidence, tutored more regularly and worked at a faster pace (O'Neill, 1975). Toomey (1986) reports evidence that many home-school relations programs fail to reach parents who are less confident in dealing with the school. An experiment by Duff (1972), for this reason, used a home visiting approach in a disadvantaged locality. The parents received training in nine behaviours supportive of their children's school progress; the children in the experiment obtained higher scores on a test of reading competence, their teachers reported a higher level of satisfaction with them and six of the nine behaviours were

> successfully mastered by the parents. Relevant to these findings is a study by Bar-Lev (1976) in which teachers were asked to distinguish parents of students who helped and did not help in their school learning at home (grades 3 to 8). The experiment involved training parents to increase their children's motivation and desirable classroom behaviour; a pre-post test design, with experimental and control groups was used. The findings indicated that both 'helping' and 'non-helping' parents can be trained to improve their children's motivation and classroom behaviour".
>
> (Toomey, 1987: 27-28)

10. Glynn's (1985) evidence suggests the need to have programs working at home which harmonise with the teacher's practice in school.

11. Informal comments in a number of studies suggest that programs of parents hearing reading can be very good for improving home-school relations in general.

12. Topping's (n.d. (b)) study has indicated the following findings in respect of Paired Reading projects:

    * those organised more smoothly and effectively tend to do better
    * there seems to be no connection between the length of the program and gains in reading age
    * schools become more successful with paired reading projects with experience, but this peaks at the third project
    * Paired Reading projects are particularly effective with low SES families
    * follow-up studies suggest that gains are maintained at least to four months or more

Topping (1986) names Paired Reading as the 'best buy' for consumers of parents and reading programs for children of low reading competence. With this I must agree. It has sufficient structure, clarity and simplicity to give clear guidance to parents and to be easily manageable, yet it is not as demanding of resources as the PPP and behavioural programs, which, in my view, should be kept for the cases where parents are especially hard to train. It should be remembered that the reading outcomes demonstrated for the programs referred to above refer in the main to literal comprehension, reading accuracy and word recognition. They do not deal with more complex skills in reading, the encouragement of which require different kinds of parent involvement.

Topping (1989) provides a whole-school policy on parents and literacy programs, which involves a wide gamut of program types and program outcomes.

NOTES

1. I should like to express my thanks to Keith Topping for making available to me, as yet unpublished materials on the topic. These have proved invaluable, and I look forward to their publication.

2. Because of the difficulties of reviewing British evidence from Australia, this criterion has been relaxed, partly because it has not been able to ascertain the referencing practices of many of the British journals concerned. In some cases reliance on secondary sources has been used.

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TABLE 1 (a) - BEHAVIOURAL METHOD

Author (Year)	Age	N	Student Selection Criteria	Initial Reading Delay	Allocation To Conditions	Type Of Evaluation	Follow Up	Gains	Pre-Post Gap (months)
Ryback & Staats (1970)	8 -13	4	Poor readers.	Unknown	N.A.	Baseline experimental	None	Significant gains from pre to post testing	6
Koven & Le Bow (1973)	7-8	3	Teacher selection based on reading delay	Unknown	N.A.	Baseline experimental	2 months	In terms of new words to spell & read	2
Umansky & Umansky (1976)	7-14	10	Remedial Reading Class - Immigrants	1 -4 years	N.A.	Experimental - control	None	Exp. group mean Impr. +12m Control Gr. Mean Impr. +2 m	2
Fry (1977)	7-11	30	Reading age 7. At least 18 months retarded	3 years	N.A.	Baseline experimental Post-experimental	2 months	Mean gain 8.33m	2

TABLE 1 (b) - PAUSE, PROMPT, PRAISE

Author (Year)	Age	N	Student Selection Criteria	Initial Reading Delay	Allocation To Conditions	Selection Process Of Families	Type Of Evaluation	Follow Up	Reading Age Gain (Months)*	Pre-Post Gap (Months)
McNaughton et al (1980)	8-12	8	Reading problems - referral	2.3-5 years	N.A.	Willing co-operation	Baseline experimental	None	*PPP* +6.5 *Gain in Baseline period* +1.4 (1m)	2.5
Glynn (1985)	10	4	Reading problems	2.2-2.8 years	N.A.	unknown	Baseline experimental	None	*PPP* +6.25 *Gain in baseline period* unknown	3
Love & Van Biervliet (1984)	8-10	4	Mildly retarded learners	~2 years	N.A.	2 solo parents	Baseline	None	No data given. From 6m-1y increase in instructional level	1
Mudre & McCormick (1989)	7-7.7	6	Teacher selected - reading difficulties - parent availability	Below 2nd grade	N.A.	Middle SES	Baseline experimental Pre-Post tests	None	Not given but significant changes in error rate, comprehension, book level	1

* Unless otherwise stated gains are in reading age using the Neale Analysis,
"A" = Accuracy "C" = Comprehension

TABLE 1 (c) - PAIRED READING WITH CONTROLS

Author . (Year)	Age	N	Student Selection Criteria	Initial Reading Delay	Allocation To Conditions	Selection Of Families	Type Of Evaluation	Follow Up	ReadingAge Gains (months)*	Pre-Post Gap (months)
Heath (1981, 1985)	7-9	32	unknown	unknown	Random		Control - experimental Pre-Post	none	PR A + 6.8; C+10.7 Control A+3.3; C+6.4	3
Araro & Sheppard (1982)♦	9-10	25	Reading difficulty	at least 2 years retarded	Self-selected controls	Self selected	Control - experimental Pre-Post	none	PR A+12.57; C+18.71 Control A+6.11; C+10.78	2
Carrick-Smith (1982, 1985)	12-13	56	Reading difficulty	up to 3 years	Random	No - students matched for reading age	Control - experimental Pre-Post	1 year	PR A+4.93; C+8.61 Control A+1.21; C+4.11	1.5
Jungnitz et al (1983)	7	27	Reading difficulties - socially disadvantaged. Reading age of 5 at most	2 years	unknown	Letters sent to parents	Control - experimental Pre-Post	none	PR +2.09 years reading age Control +0.70 years	10

Author (Year)	Age	N	Student Selection Criteria	Initial Reading Delay	Allocation To Conditions	Selection Of Families	Type Of Evaluation	Follow Up	ReadingAge Gains (months)*	Pre-Post Gap (months)
Byron & Brock (1984)♦	8-11	16	Below average reading ability	unknown	random	random	Control - experimental Pre-Post	-	PR A+6.3; C+9.7 Control +4.6; C+3.4	3
Spalding et al (1984)	11-12	32	remedial	unknown	Matched for age & reading ability	unknown	Control - experimental Pre-Post	None	PR A+6.5; C+6.18 Control A+6.3; C+1.75	6.5
O'Hara (1985)♦	5-11	24	below average reading ability	unknown	Matched by age, reading age & gender	unknown	Control - experimental Pre-Post	none	PR A+7.25; C+12.4 Control A+1.3; C+5.9	3
Simpson (1985)♦	unknown "junior age"	26	remedial	unknown	Controls were 2 distal groups from different schools	unknown	Pre-Post	none	PR A+5.76; C+11.56 Control A+2.16; C+4.79	2
Miller et al (1986)	8-11	33	at least 18 months delay - remedial	at least 18 months - delay - remedial	Same age for both groups	unknown	Control-experimental Pre-Post	yes for the control group	PR A+2.43; C+4.36 Control A+0.81; C+1.69	1.5

Author (Year)	Age	N	Student Selection Criteria	Initial Reading Delay	Allocation To Conditions	Selection Of Families	Type Of Evaluation	Follow Up	ReadingAge Gains (months)*	Pre-Post Gap (months)
Richardson (1986)♦	unknown "junior age"	23	at least 12 months delay	at least 12 months delay	unknown	unknown	Control - experimental Pre-Post	none	PR A+8.4; C+12.6 Control No figures	2
Young & Tyre (1983)	8-13	45	dyslexic poor readers	2 or 2+ years	random	[illegible]milies volunteer (dyslexics) otherwise random	Control - experimental Pre-Post	none	Dyslexic 18 PR 25 Control none	12
Gautry (1988)	8-9	unknown - 2 year level classes	by invitation	unknown	unknown	no	Control - experimental Pre-Post	none	PR RA+11 Control RA+5	1.5
Morgan & Gavin (1988)	9-11	15	retarded in reading	2yrs 3 months	unknown	unknown	Control - experimental Pre-Post	Yes to control groups	PR A+6.29; C+9.29 Control A+2.0; C-0.4	3

* Unless otherwise stated gains are in reading age using the Neale Analysis,
"A" = Accuracy "C" = Comprehension

♦ Information obtained from secondary source (Topping, n.d. (a))

TABLE 1 (d) - PAIRED READING - NO CONTROLS

Author (Year)	Age	N	Student Selection Criteria	Initial Reading Delay	Allocation to conditions	Selection Process Of Families	Type Of Evaluation	Follow Up	Reading Age Gain (Months)*	Pre-Post Gap (months)
Morgan (1976)	9-12	3	Reading retarded	2-4.5 years	N.A.	unknown	Pre-Post	none	A+5.5; C+16	4
Morgan & Lyon (1979)	8-11	4	Reading retarded	7months - 3.7 years	N.A.	unknown	Pre-Post	none	A+11.75; C+11.5	6.25
Bushell et al (1982)	8-11	22	Junior age, reading difficulties, parents concerned	mean 2 years	N.A.	Parents aware & concerned	Pre-Post	6 months	A+5.8; C=+13.0	2
Bush (1983)	8-11	65	Reading difficulties. Socio-economic disadvantage	at least 2 years	N.A.	Parents volunteered	Pre-Post	None	A+11.29; C+16.77	2
Barrett (1986)	8-10	5	Slightly remedial readers	8mths - 1y 8 mnths	N.A.	Parents invited	Pre-Post	None	Salford Test R/A +6.4m Burt Test R/A +5.6m	2.25

* Unless otherwise stated gains are in reading age using the Neale Analysis, "A" = Accuracy "C" = Comprehension

TABLE 1 (e) - PARENT LISTENING

Author (Year)	Age/Grade	N	Selected By Competence?	Allocation To Conditions	Type Of Evaluation	Follow Up	Gains In Reading Age	Significance Of Gains	Length Of Program
Tizard et al (1982)	Grades 2-3	248	No	random	control exp. Pre-Post	Yes 1 and 3 years	Not stated	$\chi^2 = 18.71$ df = 3 P<.0003	24
Hannon (1987)	Years one to four	77	No	one school chosen	comparison with previous cohorts in one school	No	Not stated	N.S.	36-60
Ashton et al (1986)	Top infants	59	No	random	Control exp. Pre-Post	No	"two R.Q. points"	N.S.	9
Friend (1983)	7-11	20	No	Self-selected volunteers	Control - Exp. Pre-Post	No	Not stated	N.S.	3
Bloom (1987)	Infants'	159	No	Schools chosen by researchers	Control - Exp. Pre-Post	No	Not stated	N.S.	6
Cooknell (1985)	6-7	44	No	2 classes with favourable teachers	Pre-Post	No	5-8mths Acc. 0-2 mths Comp	N.S.	9

TABLE 1 (f) - PARENT LISTENING TO POOR READERS

Author (Year)	Age/Grade	N	Initial Reading Delay (months)	Allocation To Conditions	Types Of Evaluation	Follow Up?	Gains In R.A. (months)	Significance Of Gains	Pre-Post Testing Gap (months)
Swinson (1985)	9	18	26	Self-selected volunteers	Pre-Post	No	11.8	Not stated	"two terms"
Knapman (1985)	8-9	6	15-77	N.A.	Pre-Post	No	9.2 Ac. 9.2 compreh. 4.39	Not stated	4
Gaines (1985)	8 to 10	10	10	N.A.	Pre-Post	No	4.39	T= 7.79 df,32 P<.001	3
Sigston et al (1984)	3rd & 4th year juniors	33	not stated*	N.A.	Pre-Post	No	6.3	Not stated	1
Bartlett et al	7:6 12 10:10	19	15 months (av.)	N.A.	Pre-Post	No	5.78	Not stated	1.25

* "poorest readers" in two classes were chosen

Table 2: Subjective evaluation of P.R. by Parents, Teachers, Parent Tutees and Peer/Crossage Tutees

	Positive Responses as % of usual replies	
	Parents*	Teachers#
Concerning Reading, Child Reported to be: +		
1 Reading More	67%	63%
2 Reading More Widely	73%	53%
3 Understanding More	68%	59%
4 More Willing	78%	70%
5 More Willing	65%	48%
6 More Interested	62%	57%
7 Enjoying More	73%	57%
8 More Accurate	71%	67%
9 More Fluent	72%	64%
10 More Expensive	62%	38%
11 Better Behaved	15%	14%

\+ Parent questionnaire format offered 3 options, negative/no change/positive
Teacher questionnaire format offered 4 options, negative/no change/not observed/positive

* Based on 1068 returned questionnaires (response rate of 73%)
\# Based on 430 returned questionnaires (response rate of 91%)

	Positive Responses as % of usuable replies	
	Parent Tutees*	Crossage/peer Tutees +
Concerning P.R., Tutee Self-Reports: +		
1 Easy to Get Books	77%	49%
2 Easy to find Time	59%	78%
3 Easy to Find Good Place	86%	74%
4 Easy to Learn to Do	87%	79%
5 Liked Doing It	83%	66%
6 Record Sheet Helpful	83%	66%
P.R. has let to:		
7 Liking Reading Better	92%	82%
8 Better at Reading	95%	93%
9 Getting on Better with Each Other	92%	79%
10 Will Go On with P.R.	70%	68%
11 Will Tell Others re P.R.	90%	69%

\+ Questionnaire format offered 2 options: negative/positive

FIGURE ONE: 'PAUSE, PROMPT PRAISE' PROCEDURES

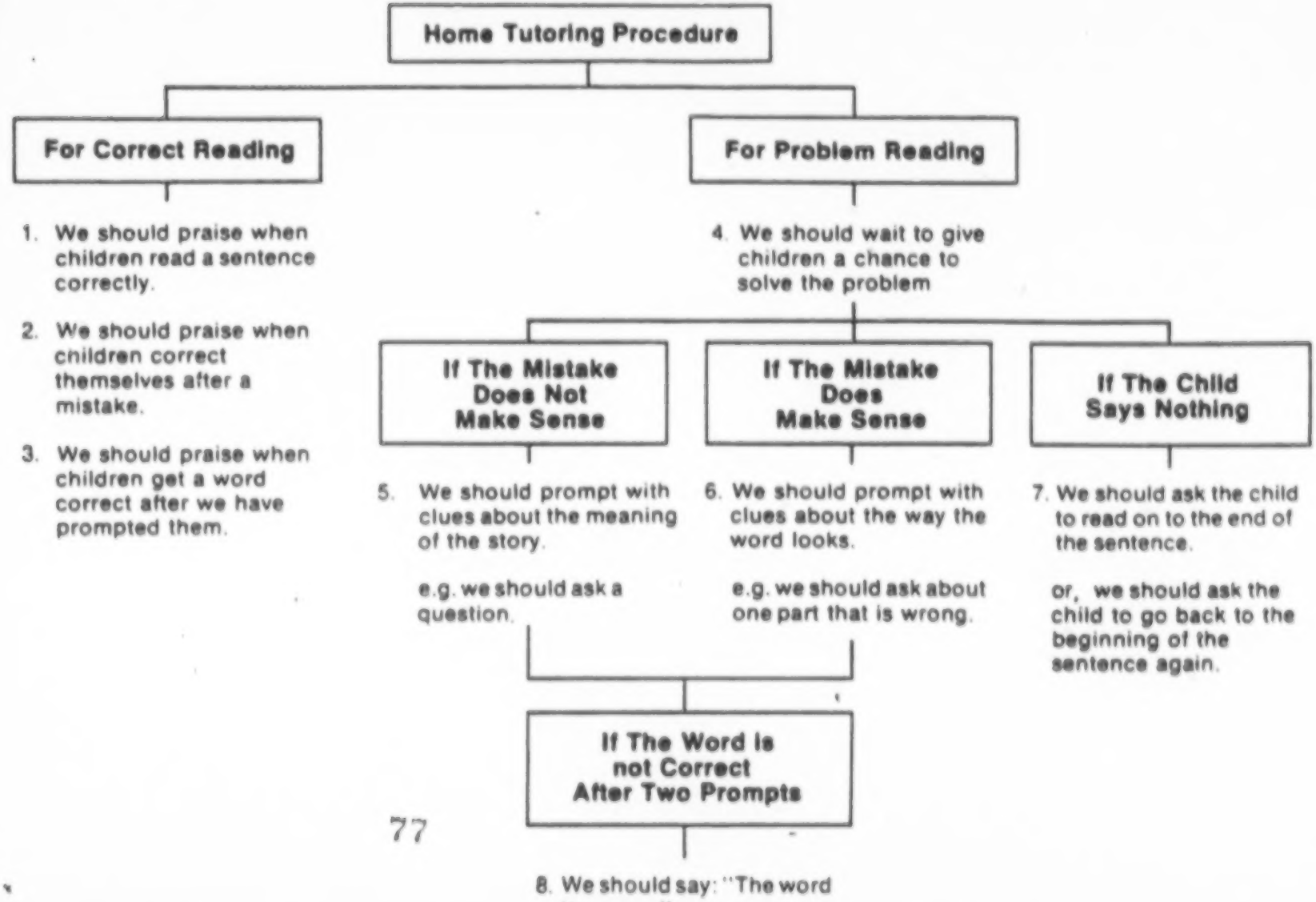
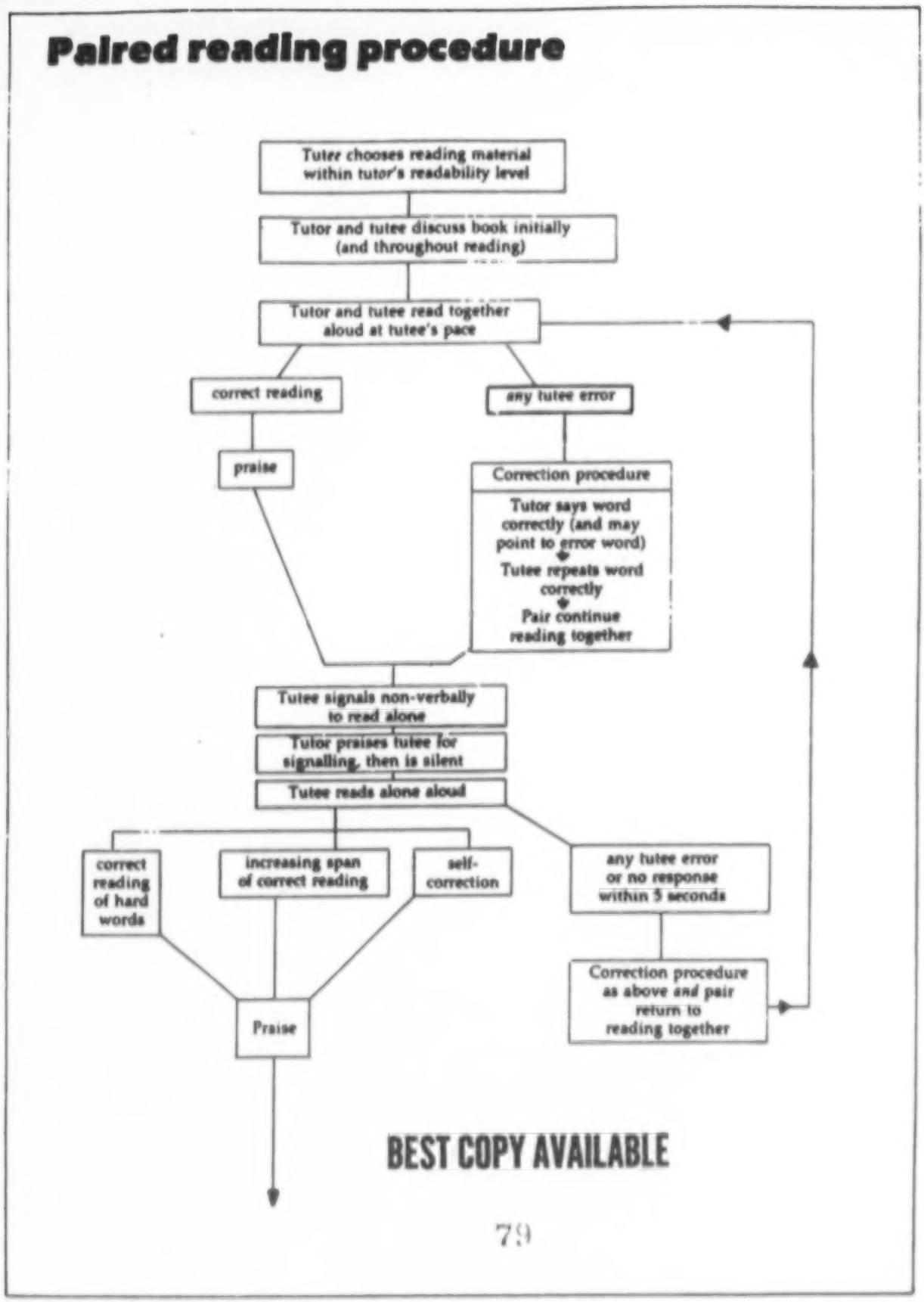

Home Tutoring Procedure
For Correct Reading
For Problem Reading
1. We should praise when children read a sentence correctly.
2. We should praise when children correct themselves after a mistake.
3. We should praise when children get a word correct after we have prompted them.
4. We should wait to give children a chance to solve the problem
If The Mistake Does Not Make Sense
If The Mistake Does Make Sense
If The Child Says Nothing
5. We should prompt with clues about the meaning of the story.
e.g. we should ask a question.
6. We should prompt with clues about the way the word looks.
e.g. we should ask about one part that is wrong.
7. We should ask the child to read on to the end of the sentence.
or, we should ask the child to go back to the beginning of the sentence again.
If The Word is not Correct After Two Prompts
8. We should say: "The word is "

FIGURE TWO:


Paired reading procedure
Tutee chooses reading material within tutor's readability level
Tutor and tutee discuss book initially (and throughout reading)
Tutor and tutee read together aloud at tutee's pace
correct reading
any tutee error
praise
Correction procedure
Tutor says word correctly (and may point to error word)
Tutee repeats word correctly
Pair continue reading together
Tutee signals non-verbally to read alone
Tutor praises tutee for signalling, then is silent
Tutee reads alone aloud
correct reading of hard words
increasing span of correct reading
self-correction
any tutee error or no response within 5 seconds
Correction procedure as above and pair return to reading together
Praise

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